Fate Report for Case # P-16-0510

Fate
Summary Statement

Fate Summary Statement: P-16-0510

FATE: MW = 1009 with 8% < 500 and 32% < 1000
Solid
S =
8 mg/L at 25 °C (E, Typical)
VP < 1.0E-6 torr at 25 °C (E)
BP
> 400 °C (E)
H < 1.00E-8 (E)
POTW removal (%) = 90 via
sorption and possible partial biodeg
Time for complete ultimate
aerobic biodeg = mo
Sorption to soils/sediments = v.strong
PBT
Potential: P3B1
*CEB FATE: Migration to ground water = negl

Overall wastewater treatment removal is 90% via sorption.

Sorption to sludge is strong based on high molecular volume.
Air
Stripping (Volatilization to air) is negligible based on high molecular volume.
Removal by biodegradation in wastewater treatment is
negligible based on high molecular volume.
Destruction of the
substance in wastewater treatment is partial based on high molecular volume.
The aerobic aquatic biodegradation half-life (ultimate) is
months based on high molecular volume.
The aerobic aquatic
biodegradation half-life (primary) is weeks to months based on high molecular volume.
The anaerobic aquatic biodegradation half-life is
months to greater than months based on high molecular volume.

Sorption to soil and sediment is very strong based on high molecular volume.

Migration to groundwater is negligible based on high molecular volume.
PMN Material:
High Persistence (P3) is based on expected environmental partitioning and high molecular volume.
Low Bioaccumulation potential (B1) is based on high molecular volume.

CBI: [redacted]
Fate Assessor:
SMILES:

Physical Properties

Property	Measured/Calculated Value	EPI
Molecular Form:	C, H, N, O	
Molecular Wt.:	1009.00	
% < 500:	8.00	
% < 1000:	32.00	

Property	Measured Value	Method	Estimated Value	Method	EPI
Melting Point:					
Boiling Point:			>500	EPI, low wt.	
BP Pressure:			@760		@760
Vapor Pressure:			<0.000001	EPI, low wt.	
Water Solubility:			1.085	EPI, low wt.	
Log P:			-0.59		
Log Kow:					
Log Koc:					
Log BCF:					
Henry's Law:					

Property	Measured Value	Method	Estimated Value	Method	EPI

pH:	
pH Comment:	

Fate Analysis

Hydrolysis (t1/2, da):	**Volatilization (t1/2) - River (hr):**	**Volatilization (t1/2) - Lake (da):**
Atm Ox Potential (t1/2)OH (hr):	**Atm Ox Potential (t1/2)O3 (hr):**	**Atm Ox Potential (t1/2) Total (hr):**
MITI Linear:	**MITI NonLinear:**	
Biodeg Linear:	**Biodeg NonLinear:**	
Biodeg Survey ult:	**Biodeg Survey Prim:**	
STP (% removal) Total:	**STP (% removal) Biodeg:**	
STP (% removal) Ads:	**STP (% removal) Air:**	

Rationales

Removal in Wastewater Treatment:	
Atmospheric Oxidation:	
Hydrolysis:	
Photolysis:	
Aerobic Biodegradation:	
Anaerobic Biodegradation:	
Sorption to Soil and Sediment:	
Migration to Groundwater:	
Persistence - Air:	

Persistence - Water:	
Volatilization from Water:	
Soil:	
Sediment:	
Other:	
Standard:	
Bioaccumulation:	

PBT Ratings

Persistence	Bioaccumulation	Toxicity	PBT Comments
3	1	2	

Exposure-Based Testing

Exposure-Based Testing:	

Fate Ratings
Removal in WWT/POTW (Overall):

Removal in WWT/POTW (Overall):	90

Condition	Rating Values	Rating Description				Comment
		1	2	3	4	
WWT/POTW Sorption:	3	Low	Moderate	Strong	V. Strong	
WWT/POTW Stripping:	4	Extensive	Moderate	Low	Negligible	
Biodegradation Removal:	4	Unknown	High	Moderate	Negligible	
Biodegradation Destruction:	3	Unknown	Complete	Partial	—	
Aerobic Biodeg Ult:	3	<= Days	Weeks	Months	> Months	
Aerobic Biodeg Prim:	2-3	<= Days	Weeks	Months	> Months	
	3-4		Weeks	Months		

Condition	Rating Values	Rating Description				Comment
		1	2	3	4	
Anaerobic Biodeg Ult:		<= Days			> Months	
Anaerobic Biodeg Prim:		<= Days	Weeks	Months	> Months	
Hydrolysis (t1/2 at pH 7,25C) A:		<= Minutes	Hours	Days	>= Months	
Hydrolysis (t1/2 at pH 7,25C) B:		<= Minutes	Hours	Days	>= Months	
Sorption to Soils/Sediments:	1	V. Strong	Strong	Moderate	Low	
Migration to Ground Water:	1	Negligible	Slow	Moderate	Rapid	
Photolysis A, Direct:		Negligible	Slow	Moderate	Rapid	
Photolysis B, Indirect:		Negligible	Slow	Moderate	Rapid	
Atmospheric Ox A, OH:		Negligible	Slow	Moderate	Rapid	
Atmospheric Ox B, O3:		Negligible	Slow	Moderate	Rapid	

Bio Comments:

Bio Comments:	

Fate Comments:

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Comments/Telephone Log

Artifact	Update/Upload Time